



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/775,402	02/01/2001	Takashi Tanimoto	10449-034001/P1S2000190US	8002
26161	7590	12/12/2003	EXAMINER	
FISH & RICHARDSON PC 225 FRANKLIN ST BOSTON, MA 02110			SONG, HOON K	
			ART UNIT	PAPER NUMBER
			2882	

DATE MAILED: 12/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/775,402

Applicant(s)

TANIMOTO, TAKASHI

Examiner

Hoon Song

Art Unit

2882

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 February 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-7 and 9-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Rhodes (US 6140630).

Regarding claim 1, Rhodes teaches an apparatus for driving a CCD image sensor which performs charge transfer operation in accordance with a pulse signal (figure 4), comprising:

a drive circuit (14) for supplying a pulse signal to the CCD image sensor (14);  
and

a power supply circuit (charge pump), connected to the drive circuit (32), for supplying the drive circuit with a voltage for generating the pulse signal,

wherein the power supply circuit (charge pump) includes an over-boosting circuit for temporarily over-boosting the voltage supplied to the drive circuit to generate an over-boosted voltage exceeding a target control voltage for predetermined time, prior to the charge transfer operation of the CCD image sensor (column 6 line 62+ and column 7 line 35+).

Regarding claim 2, Rhodes teaches that the power supply circuit (figure 1) includes a constant voltage control circuit (Vcc) that performs constant voltage control on the voltage supplied to the drive circuit, and wherein the constant voltage control circuit is inactivated when the over-boosting circuit is executing an over-boosting operation.

Regarding claims 3 and 10-11, Rhodes teaches that the over-boosting circuit is a charge pump type boosting circuit that performs a boosting operation in accordance with a clock signal (TX), and the constant voltage (Vcc) control circuit thins the clock signal in the constant voltage control and supplies a thinned clock signal to the charge pump type boosting circuit, and wherein constant voltage control circuit supplies the clock signal without thinning the clock signal to the charge pump type boosting circuit when the charge pump type boosting circuit performs the over-boosting operation (column 6 line 62+ and column 7 line 35+).

Regarding claims 4 and 9, Rhodes teaches that the CCD image sensor is a frame transfer type CCD image sensor including an image sensing section for generating charges by performing photoelectric conversion and a storage section, located separate from the image sensing section, for temporarily storing charges transferred from the image sensing section; and wherein the drive circuit includes a vertical driver for generating a pulse signal for charge transfer from the image sensing section to the storage section (figure 4)

Regarding claim 5, Rhodes teaches that the drive circuit and the power supply circuit are formed on a single semiconductor integrated circuit substrate (figure 4).

Regarding claim 6, Rhodes teaches that the CCD image sensor generates an image sensor output signal in accordance with charges every predetermined period, and the power supply circuit is enabled when the CCD image sensor is stopping generation of the image sensor output signal (column 6 line 40+).

Regarding claim 7, Rhodes teaches an apparatus for driving a CCD image sensor which performs charge transfer operation in accordance with a pulse signal comprising:

A drive circuit for supplying a pulse signal to the CCD image sensor, and

A power supply circuit, connected to the drive circuit, for supplying the drive circuit with a voltage for generating the pulse signal; and wherein the drive circuit and the power supply circuit are formed on a single semiconductor integrated circuit substrate, wherein the CCD image sensor generates an image sensor output signal every predetermined period in accordance with charge, and the power supply circuit (Vcc) is enabled when the image sensor stops generating image sensor output signals (column 6 line 62+ and column 7 line 35+).

#### ***Response to Arguments***

Applicant's arguments with respect to claims 1-7 and 9-11 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoon Song whose telephone number is 703-308-2736. The examiner can normally be reached on 8:30 AM - 5 PM, Monday - Friday.

Application/Control Number: 09/775,402  
Art Unit: 2882

Page 5

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Glick can be reached on 703-308-4858. The fax phone number for the organization where this application or proceeding is assigned is 703-308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

  
DAVID V. BRUCE  
PRIMARY EXAMINER

Hoon Song *nks*